

Appl. No. 09/896,692 Reply to Office Action of October 19, 2004	Atty. Docket No. 47508.556 Client Ref. No. HYZ-069CN2
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### **AMENDMENTS**

Please enter the following amendments:

#### **Amendments to the claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. **(currently amended)** A synthetic oligonucleotide ~~having~~ comprising a nucleotide sequence consisting of 21 nucleotides of the sequence set forth as SEQ ID NO: 5, the nucleotides being linked via phosphorothioate internucleotide linkages, and the oligonucleotide being specifically complementary to nucleotides 324 to 345 of a conserved *gag* region of the HIV-1 genome, wherein the synthetic oligonucleotide does not have the sequence set forth as SEQ ID NO: 4 and is not complementary to the conserved *gag* region of the HIV-1 genome beyond nucleotides 324 to 345.
2. **(original)** The oligonucleotide of claim 1, wherein the nucleotides comprise at least two 3'-terminal ribonucleotides, at least two 5'-terminal ribonucleotides, or at least two 3'-terminal and at least two 5' terminal ribonucleotides.
3. **(original)** The oligonucleotide of claim 2, wherein the ribonucleotides are 2'-substituted ribonucleotides.
4. **(original)** The oligonucleotide of claim 3, where the 3'-substituted ribonucleotides are 2'-O-alkyl ribonucleotides.
5. **(original)** The oligonucleotide of claim 4, wherein the ribonucleotides are 2'-O-methyl ribonucleotides.
6. **(previously presented)** The oligonucleotide of claim 2, wherein the nucleotides consist essentially of four 3'-terminal ribonucleotides and four 5'-terminal ribonucleotides, flanking 13 deoxynucleotides.
7. **(original)** The oligonucleotide of claim 6, wherein the ribonucleotides are 2'-O-methyl ribonucleotides.

8. **(original)** The oligonucleotide of claim 1, having SEQ ID NO:1.
9. **(original)** The oligonucleotide of claim 1, having SEQ ID NO:3.
10. **(original)** The oligonucleotide of claim 7, having SEQ ID NO:1.
11. **(original)** The oligonucleotide of claim 7, having SEQ ID NO:3.
12. **(original)** The oligonucleotide of claim 1, having SEQ ID NO:2.
13. **(canceled)**
14. **(original)** The oligonucleotide of claim 1, which inhibits HIV-1 or HIV-2 infection in a cell.
15. **(original)** The oligonucleotide of claim 1, which exhibits antiviral activity against HIV-1 and HIV-2.
16. **(currently amended)** A method of treating HIV-1 or HIV-2 infection in a ~~mammal~~, human comprising  
administering to the ~~mammal~~ human a synthetic oligonucleotide in an amount effective to inhibit the proliferation of HIV-1 or HIV-2, the oligonucleotide ~~having~~ comprising a nucleotide sequence consisting of 21 nucleotides of the sequence set forth as SEQ ID NO: 5, the nucleotides being linked via phosphorothioate internucleotide linkages, and the oligonucleotide being specifically complementary to nucleotides 324 to 345 of a conserved *gag* region of the HIV-1 genome.
17. **(original)** The method of claim 16, wherein the nucleotides of the oligonucleotide comprise at least two 3'-terminal ribonucleotides, at least two 5'-terminal ribonucleotides, or at least two 3'-terminal and at least two 5' terminal ribonucleotides.

18. **(original)** The method of claim 17, wherein the ribonucleotides of the oligonucleotide are 2'-substituted ribonucleotides.

19. **(original)** The method of claim 18, wherein the 3'-substituted ribonucleotides of the oligonucleotides are 2'-O-alkyl ribonucleotides.

20. **(original)** The method of claim 19, wherein the ribonucleotides of the oligonucleotide are 2'-O- methyl ribonucleotides.

21. **(previously presented)** The method of claim 19, wherein the nucleotides of the oligonucleotide consist essentially of four 3'-terminal ribonucleotides and four 5'-terminal ribonucleotides, flanking 13 deoxynucleotides.

22. **(original)** The method of claim 21, wherein the ribonucleotides of the oligonucleotide are 2'-O- methyl ribonucleotides.

23. **(previously presented)** The method of claim 16, wherein the oligonucleotide comprises SEQ ID NO:1.

24. **(previously presented)** The method of claim 16, wherein the oligonucleotide comprises SEQ ID NO:3.

25. **(previously presented)** The method of claim 21, wherein the oligonucleotide comprises SEQ ID NO:1.

26. **(previously presented)** The method of claim 21, wherein the oligonucleotide comprises SEQ ID NO:3.

27. **(previously presented)** The method of claim 16, wherein the oligonucleotide comprises SEQ ID NO:2.

28. **(previously presented)** The method of claim 16, wherein the oligonucleotide comprises SEQ ID NO:6.

29. **(original)** The method of claim 16, wherein the oligonucleotide is administered orally.

30. **(original)** The method of claim 16, wherein the oligonucleotide is administered intravenously.

31. **(original)** A pharmaceutical formulation comprising the oligonucleotide of claim 1 in a pharmaceutically acceptable carrier.

32. **(original)** A pharmaceutical formulation comprising the oligonucleotide of claim 6 in a pharmaceutically acceptable carrier.

33. **(original)** A pharmaceutical formulation comprising the oligonucleotide of claim 7 in a pharmaceutically acceptable carrier.

34. **(previously presented)** A method of inhibiting HIV-1 or HIV-2 infection in a cell comprising:

contacting the cell with the synthetic oligonucleotide of claim 1,  
thereby inhibiting HIV-1 or HIV-2 infection in the cell.

35. **(original)** A method of inhibiting HIV-1 or HIV-2 infection in a cell comprising the step of contacting the cell with the synthetic oligonucleotide of claim 6.

36. **(original)** A method of inhibiting HIV-1 or HIV-2 infection in a cell comprising the step of contacting the cell with the synthetic oligonucleotide of claim 7.

37. **(original)** A method for introducing an intact oligonucleotide into a mammal, the method comprising the step of orally administering to the mammal the oligonucleotide of claim 1,  
whereby the oligonucleotide is present in intact form in the systemic plasma following oral administration.

38. **(original)** A method for introducing an intact oligonucleotide into a mammal, the method comprising the step of orally administering to the mammal the oligonucleotide of claim 6,  
whereby the oligonucleotide is present in intact form in the systemic plasma following oral administration.

39. **(original)** A method for introducing an intact oligonucleotide into a mammal, the method comprising the step of orally administering to the mammal the oligonucleotide of claim 7,  
whereby the oligonucleotide is present in intact form in the systemic plasma following oral administration.

40. **(previously presented)** The method of claim 16, wherein the oligonucleotide comprises SEQ ID NO:4.

41. **(previously presented)** The method of claim 21, wherein the oligonucleotide comprises SEQ ID NO:4.